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OF

NEW JERSEY STATE BOARD OF HEALTH.

TO HOUSEHOLDERS, CITY AUTHORITIES, BOARDS OF HEALTH, ETC.

I. *Look to the Condition of your House.*—Begin at the cellar or basement. Have nothing there that can decay, or that causes foul odors. If damp, let in air or sunlight, or drain the surroundings if needed. If by cleansing, by whitewash or by repeated airing there is not agreeable air, speedily use some of the disinfectants recommended.

II. *Look to the Kitchen.*—Let all sinks be kept sweet by scrubbing—by hot water poured down each day, or by use of disinfectants if needed. If outside there is an opening to the air, so that the kitchen sink is not the chief air outlet to a cesspool or sewer, so much the better. Be careful that all slops or offal from kitchen or laundry work is soon conveyed away, or disinfected at once, and not made to become a part of any heap or mass of impure matter. Cleanness cannot come out of uncleanness. Such things rapidly vitiate air, and discomfort, sickness or death result. Dirty water of any kind is even worse than dry filth. Secure cleanliness if you would secure health.

III. *Have the Dwelling and Sleeping Rooms well aired each day.*—Closed closets, unshaken bed clothing, windows open and curtains down, will not secure rooms fit to live in, or sleep in. *Flush* the room with air and let this, with sweeping and dusting, remove the organic particles which otherwise constantly accumulate and cause foulness. Chamber slops and wash water are very innocent if cared for within six hours, but soon after decompose, and in sickness or very hot weather, sometimes sooner. If there are water closets or stationary wash basins in your house, be sure that they are not the foul air inlets to outside cesspools or sewers. Have good traps, good outside ventilation, good caution as to smells and use disinfectants for temporary purposes until you can remedy radical defects. Look to unoccupied rooms and the attic so that all may be dried and well aired, and that you may secure as much coolness and ventilation above you as possible, and not have an unventilated hot air chamber near the roof.

IV. *Know as far as you can that your Water and Ice Supply is Pure.*—Use no water from wells where surface soil is foul or where organic matter can reach, or from cisterns exposed to foul air, as water will absorb foulness. If the water has any odor while heating in a glass tube, or if it becomes turbid or emits odor on being shaken after being kept a day in a long glass bottle, half full and corked, at once suspect it. If you must use it, have it boiled, and when cool, air it by pouring from one pitcher to another, and use it thus until you can be satisfied as to the purity.—See in full our First Annual Report, pages 83-4.

V. *See that the Food supplied for your Family* is in proper condition before cooking, and that it is prepared in a wholesome way.

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VI. *Look to the Out Door Part of your Home and see that it is kept in Proper Order—that no water or decomposing matters are thrown upon it.*

If there is a cesspool it must not smell where it is disconnected with the house or has access to the air. If it does, it must be disinfected until radical change can be made. If there is an ordinary out door privy have free access of air to it, and exclusion of all slop or rain water from it. If there is odor from it use odorless disinfectants until it is corrected. If too foul for use cover it over with "calx powder," and have under the seats some receptacle, such as the patent pail, or a half barrel or tub, which can be frequently removed and alternately replaced by another. A privy built above ground, with water-tight receptacle, by the use of dry earth, powdered wood charcoal, dry sifted ashes and occasional copperas water, is easily kept neat and clean, if cleansed each spring and fall.

Country homes need inspection and circumspection. Their sanitary care is often greatly neglected by nice people.

VII. *Insist that your town, if you live in one, have thorough sanitary inspection.* Where persons are housed closely to each other there cannot but be evils from which the community has a right to be protected, and yet from which each one cannot protect himself. There will be householders who, from thoughtlessness, ignorance or poverty, do not secure for themselves or for others the needed sanitary conditions. Charity, the public welfare, and the necessary incidents of city life require regulated and definite provision against all those nuisances which imperil the life and health of the populace.

Insist upon systematic prevention, instead of waiting for that loss which disease always involves when it is artificial or when we are compelled to meet an epidemic hurriedly.

If your authorities do not act, move by voluntary associations, which shall exhibit the facts and so compel action.

There is no waste so great as that of preventible disease, which disables not only the sufferers, but puts a tax on labor, capital and life much more direful than a well directed expenditure to prevent it. Epidemics are to be dreaded, but our greatest losses are from a chronic death and sickness rate which has a permanent base of supply in prevalent unsanitary conditions, not prevented, not remedied as they should be and can be. Public health is common wealth. Can you not do something to reduce the tax levy which forced diseases impose upon the citizens of your city, township and State? To the degree that sickness and invalidism is unnecessary, it means hard times and ill-content. Every motive of comfort and interest requires that we plan to prevent all those ailments which are within the range and duty of our control.

DISINFECTANTS, AND HOW TO USE THEM.

Drafts of air for all floating foulness ;

Dry rubbing for all easily detached foulness ;

Wiping and water scrubbing for all attached foulness in most cases admit of no effective substitution.

Submersion in boiling water is applicable to the cleansing of all garments, utensils, &c., admitting of such a method ; and dry boiling heat or freezing cold will also neutralize infective particles.

To disinfect a room, ship or building so needing disinfection that its contents and surfaces cannot be easily dealt with singly : Close the room or building, its windows, doors and chimneys so as to exclude the outer air as far as possible. Vacate the

house. Break roll sulphur in small pieces, place it on an iron plate or other metallic dish, and set this on a pair of tongs or other cross bar over an iron pot in which there is water, or over a large box of sand, so as to avoid danger of fire from small particles of burning sulphur. Light it by a few hot coals or some alcohol poured around the sulphur and lighted. Then leave and shut the door after you. A pound and a half of sulphur is sufficient for 1,000 cubic feet of space. The sulphur will convert all the oxygen of the air into sulphurous acid, and all organic particles are likely to be changed. Keep closed three hours after the burning has ceased, and then air well six hours before occupying. Clothing and bedding needing disinfection may be hung on lines and left in the room. Most furniture is not permanently injured, but needs dry wiping and then washing off afterward.

CHLORIDE OF LIME.

A valuable disinfectant, chiefly because it contains from 30 to 35 per cent. of chlorine, which is liberated under proper methods of use. If purchased for cities, it should be tested as to the amount. It is not overrated as a disinfectant if only its quality is known and its mode of use is judicious.

It needs slight moistening, frequent stirring, and sometimes the addition of an acid, as vinegar or common spirits of salt. The test of its efficiency is that the odor of it be kept constantly perceptible.

CHLORINATED SODA.

Usually known as Labarraque's solution, is a convenient liquid preparation valuable for use in saucers in the sick room or in utensils. Its odor should be perceptible to strangers entering.

LIME—PLASTER—CHARCOAL—DRY EARTH—SIFTED ASHES.

All these have value, chiefly to be tested by the rapidity with which they correct odors. Freshed slaked lime should be scattered in all places of foul odor. It or charcoal or plaster may be scattered over heaps emitting foul odors. Calx powder is made by pounding one bushel of dry fresh charcoal and two bushels of stone lime and mixing them, and is of great practical use.

All these substances absorb foul gases and dry up moisture, and so help to retard decomposition, or else absorb its results. Where lump charcoal is used it may be refitted for use by reheating it.

Quick lime and ground plaster should not be used where they may be washed into pipes and form lime soap or obstruct by hardening.

THE METALLIC DISINFECTANTS.

Sulphate of iron (copperas or green vitriol), two pounds to a gallon of water, to be sprinkled freely in drains, cesspools, privy closets, soiled vessels or heaps of decaying matter which cannot be removed at once. One half of the strength will do where it is to stand in contact with surfaces or in spittoons, water closets, house vessels or vaults.

One half pound of sulphate of iron (green vitriol), or one ounce of sulphate of zinc (white vitriol), or one ounce of sulphate of copper (blue vitriol), or one ounce of chloride of zinc (butter of zinc), or one ounce of chloride of lime (bleaching powder), put to a quart of water—any one of these is available for neutralizing discharges or for sinks, used in quantities sufficient to cover the bulk they are intended to disinfect.

Soiled garments may be put to soak in a half pound of sulphate of zinc (white

vitriol), to three gallons of water. It will not stain or discolor most fabrics. One ounce of chloride of lead dissolved in a pint of hot water and then a pailful of water added in to which a handful of common salt has been thrown, serves a similar purpose. Also a half ounce of permanganate of potash to a gallon of water.

For washing, soiled garments should be put in boiling water, unless the character of the fabric forbids it. Powdered borax, one quarter of a pound to a gallon of water, is a good cleanser of clothing. Soiled hair, brushes, etc., are cleansed by it. Chloride of zinc, one quarter of a pound to a gallon of water, does not stain or discolor fabrics.

Parkes recommends two ounces of chloride of lime, or one ounce of sulphate of zinc, or one half of a fluid ounce of chloride of zinc, to be added to each gallon of the boiling water in which the garments are thrown. On clothing that cannot be washed and does not need to be burned, after thorough shaking and airing the sulphate of zinc or chloride of zinc solution may be sprinkled.

For general disinfection the following compound is available and valuable, and far better than most of the patented articles offered :

Sulphate of iron (copperas), forty pounds.

Sulphate of lime (gypsum or plaster), fifty pounds.

Sulphate of zinc, (white vitriol), seven pounds.

Powdered charcoal, two pounds.

Mix well and scatter dry or wet it in small quantities and make into balls ready for use. Where a liquid is needed, stir in water in the proportion of a pound of the powder or ball to a gallon of water, and sprinkle where needed.

Carbolic Acid is valuable as an out-door disinfectant, to be added to the sulphate of iron solution or used separately. Because of its own odor we cannot well test its effect in correcting other smells. We would test specimens or use only Squibbs Liquid, No. 1, because sure of its strength to be diluted by adding from fifty to one hundred parts of water, according to the mode of its employment. It is seldom required if the other articles named are properly used. Carbolic acid and chloride of lime must not be used together.

Remember that we do not know that any chemical disinfectants destroy the germs of a disease.

They only neutralize or suspend the action of those artificial disease producers or fertilizers which the bad administration of cities or householders, or interference with natural laws or neglect of cleanliness has provided. We are to rely on these palliatives or correctives only while we are preparing for radical methods of prevention.

N. B.—The only reason why the death rate of your city or your township is over 15 to the 1000, or why the sickness and invalid rate is a large multiple of this, is because you are the victims of nuisances which admit of abatement.

PRESENT WHOLESALE PRICES OF DISINFECTANTS.

Sulphate of Iron (Copperas, Green Vitriol), 1½ cents per pound.

Sulphate of Zinc (~~Blue~~ Vitriol), 6 cents.

Chloride of Lime (in bulk), 2 cents per pound; in packages, 6 cents.

Sulphur Roll, 2½ cents per pound.

Carbolic Acid (No. 1 Squills), 30 cents per pound.

Zinc and Carbolic Acid, disinfectant of N. Y. Board of Health, 40 cents per gallon.

Permanganate Crystals, \$1.10 per pound.

50 per cent solution Chloride of Zinc, 25 cents per pound.

Solution of Chlorinated Soda (Labarraque's), 10 cents a pound.